Philosophical Transactions

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I.

An account of Books, Geography Anatomiz'd, *or the Compleat* Geographical Grammar. *Being a ſhort and exact* Analyſis *of the whole Body of* Modern Geography, *after a new and curious Method. The Second Edition, much improv'd and enlarged. By* Pat. Gordon. *M. A. F. R. S.*

THE principal Deſign of this excellent Treatiſe, is (in the Words of its Ingenious] Author) *To preſent the younger ſort of our Nobility and Gentry with a Compendious, Pleaſant, and Methodical Tract of MODERN GEOGRAPHY, that moſt uſeful Science which highly deſerves their Regard in a peculiar manner.* It conſiſts of two Parts, whereof the firſt gives a *General,* and the ſecond a *particular View* of the *Terraqueous Globe.*

In the *General View,* the Author has (1.) Illuſtrated, by way of Definition, Deſcription, or Derivation, ſuch *Terms* as are neceſſary for a right Underſtanding of the Globe, adding Analytical Tables of the following Treatiſe. (2.) He hath given in ſuch pleaſant *Problems,* as are performable by it, and the manner of their Performance. (3.) He hath ſubjoyn'd divers plain Geographical *Theorems,* clearly deducible from the foregoing Problems. (4.) He has advanc'd ſome *Paradoxical Poſitions* in Matters of Geography, yet equally certain with the Theorems. Laſtly, He has taken a Tranſient Survey of the whole Surface of the Earth, as it conſiſts of *Land* and *Water.* Next in the *particular View* he has given the Maps, and a clear Proſpect of all remarkable Countries, and their Inhabitants, particularly as to their.

1. *Situation,* both for Latitude and Longitude, for the more readily knowing them.

2. *Extent*, or true Dimenſion in *Engliſh* Miles, from *Eaſt* to *Weſt,* and from *South* to *North.*

3. *Diviſion*, into the more general Parts, and how ſuch Parts are readily found.

4. *Sub-diviſion*, into particular Provinces, how theſe are moſt readily found.

5. Chief Towns, giving their modern Names, and how thoſe Towns are moſt readily found.

6. *Names,* as called by the Ancients, or by ſome more Modern, with the Etymology of the *Engliſh* Name.

7. *Air*, as to its Temperature, as alſo the *Antipodes* of that part of the Globe.

8. *Soil,* and proper Climat of the Country; it's natural Product, and the length of the Days and Nights.

9. *Commodities*, there produced.

10. Rarities, either of Nature, or of Art, eſpecially Monuments of Antiquity.

11. *Arch-biſhopricks,* their Number and Names.

12. *Biſhopricks*, their Number and Names.

13. *Univerſities,* their Number and Names.

14. *Manners,* that is, the natural *Genius* and Temper of the People, and their moſt noted Cuſtoms.

15. *Language*, it's Compoſition and Propriety, and in many the *Pater Noſter* as a *Specimen* thereof.

16. *Government*, it's Nature or Conſtitution, and the publick Courts of Judicature.

17. *Arms*, how Blazoned, and the proper *Mottos.*

18. *Religion*, the chief Tenets thereof, and when, and by whom Chriſtianity was planted, if at all.

To theſe two Parts is annex'd an *Appendix*, comprehending the *European Plantations*, and *Factories* in *Aſia*, *A-*

frica, and *America*; as alſo ſome reaſonable *Propoſals* concerning the *Propagation of the bleſſed Goſpel* in all *Pagan* Countries.

I I.

The Celeſtial World Diſcover'd, *or* Conjectures concerning the Inhabitants, Plants, and Productions of the Worlds in the Planets. *Writin Latin by* Chriſtianus Huygens, *and Inſcribed to his Brother* Conſtantine Huygens, *late Secretary to His Majeſty King* William. *in 8vo. with 5 Copper Cuts of Illuſtration.*

THE Ingenious Author of this Diſcourſe, having ſpent much Time, and taken great Pains in making Celeſtial Obſervations and Diſcoveries by Teleſcopes of the largeſt Sizes, and other Inſtruments, and having moreover acquainted himſelf with the lateſt and beſt Obſervations and Diſcoveries made by other Modern Aſtronomers; and having well weighed and conſidered the Import and Significancy of them, comes in this Book to acquaint his Brother the Heer *Conſtantine Huygens*, (who was alſo a great lover of theſe Inquirys, and who was the Perſon that furniſht him with the excellent Teleſcopes he made uſe of, Wrought with his own Hand, wherein he had for his Diverſion acquired an extraordinary Art and Dexterity, unknown to any beſides himſelf) and by the Publication of it, if he thought fit, likewiſe to acquaint the Learned World, what upon the Reſult of all, his Opinion and Belief was concerning the Form, Structure, and Fabrick of the Univerſe, or the whole viſible World, and the Reaſons and Arguments that induced him thereunto, which he hopes may ſeem reaſonable enough to Men Skilled in Geometrical, and Aſtronomical Sciences; ſuch as he wiſhes his Readers may be. But becauſe he was well aware that many of them might be Perſons of differing Qualifications, and ſuch as could not, or would not underſtand the Cogency of them, or from Prepoſſeſſion would endeavour to Carp at, and make Arguments againſt the whole Doctrin there delivered, therefore he endeavours to Enumerate and Obviate ſuch as are moſt likely to be produced for that end: The firſt of which he conceives, may be of ſuch as are ignorant of Mathematical Knowledge, who will be apt to repreſent it as a Whimſey only of a diſturbed Brain, they thinking it impoſſible to meaſure, or any wiſe to be aſcertain'd of the Magnitudes and Diſtances of the Celeſtial Bodies, and as to the Earth's Motions they look on them as Fictions, and not capable of being proved: To ſuch he anſwers, that he does not aſſert thoſe things as abſolutely demonſtrated, but rather as probable Conjectures, and that he leaves every one free to judge of them as they pleaſe. And to ſuch as may think them uſeleſs, ſince they are only Conjectural, he anſwers, upon the ſame account, all other Phyſical Knowledge may be rejected, ſince that alſo for the moſt part is but Conjectural; and yet we know the Studies of thoſe things are very commendable, and afford great Pleaſure, Satisfaction, and Benefit, even to ſuch as think them Contradictory to Holy Writ, to ſuppoſe other Worlds, or Animals then thoſe of the Earth; becauſe ſuch are not mention'd in the Hiſtory of the Creation. He thinks there has been enough ſaid to ſhew that the Deſcription of the Creation in the Bible, was only with Relation to the Earth, and not at all with Reſpect to the other Parts of the World, then what were here viſible ; nor can it be Detrimental to Religion, but will, be rather, as he conceives, a means to make Men have a leſſer Eſteem of theſe Earthly Things, ſince they are but ſmall, with Reſpect to the other World, and to have a greater Veneration and Adoration of that wonderful Wiſdom and Providence which is univerſally diſplayed through the whole Fabrick of the Univerſe. As to the Form and Diſpoſition of the Whole, and of the Parts of this Univerſe, he agrees with the Syſtem of *Copernicus* ; for the better Explication of which he hath added two Figures, the firſt of which ſhews their Order and Poſitions, and the ſecond their Comparative Magnitudes. And becauſe by reaſon of the ſmallneſs of theſe Figures, the true Proportions could not be ſufficiently expreſt, he has added a particular Explication, expreſſing in Numbers the Diſtances of their Orbs from the Sun in the Center, and the Times of their Periods in them: Next of their particular Magnitudes, and ſo of their Proportions to each other, and to the Body of the Sun. And ſince it hereby appears that the Earth is moved about the Sun, as well as the other Planets, (which all the beſt of the Modern Aſtronomers do now believe, and none but ſuch as are of a more dull Apprehenſion, or are otherwiſe over-powered by their Superiors, do deny, or make any ſcruple poſitively to aſſert) and that thoſe Planets are Enlight'ned by the Sun in the ſame manner as the Earth is, and ſome of them as ♄ and ♃ have their own Moons, or Secundary Planets moving about them, ſometimes Eclipſing them, and Eclipſed by them as the Earth alſo is by its Moon, and that ſome of them are much bigger, as well as ſome others ſmaller then the Earth ; and ſo that the Magnitudes are not proportion'd, either according to their Order or their Diſtance ; ſince alſo they are obſerved to have the ſame kinds of Motion, both Annual and Diurnal, therefore he thinks it very probable that they do reſemble the Earth alſo in other Qualifications ; for that we have no Argument to the contrary why they ſhould not, nor is this way of Reaſoning from the Agreement in ſome to alike Agreement of other precarious, ſince 'tis the moſt uſual Method of diſcovering the inſenſible Parts of the World by their Similitude to the more Senſible, as in Anatomy we judge of the Parts of a Creature, by the Similitude we find they have to the Parts of ſome other before known. From this Topick therefore he thinks we may ſafely conclude that the other Planets have ſolid Bodies, and Gravity towards their Centers, as the Earth hath ſince, we find them to have the ſame Figure, and the ſame Motions, and the ſame Concomitants, and that they have Atmoſpheres and Air, and Water, *&c.* And ſince it would be too great a Depreciating of them, and a too much Over-valuing of the Earth, to ſuppoſe them not to be likewiſe Adorned with the more admirable Productions and Fabricks of Plants, and Animals, which more evidently manifeſt the Wiſdom and Deſign of the Divine Architect, which we find the Earth to be Enriched and Beautified with. But to ſuppoſe them only lifeleſs Lumps of Matter ; as Earth, Water, *&c.* Or vaſt Deſerts, barren Mountains, Rocks, *&c.* This he ſays would ſink them too much below the Earth in Beauty and Dignity, which this Method of Reaſoning will in no wiſe permit. He conceives therefore we muſt ſuppoſe, and believe them to have Animals as well as the Earth ; and ſo of neceſſity Plants for their Nouriſhment. And theſe poſſibly not much different from thoſe we have, both as to their outward Form, and as to their internal Structure, and as to their Method of Production, or Propagation, and their Increaſe or Growth. And that if there be any Difference, moſt probably it muſt ariſe from the differing Diſtances of thoſe Globes from the Sun, which is more likely to affect the Matter than the Form. Wherefore though we cannot

not be aſcertain'd what theſe Differences are, yet we may reaſonably conclude, that they are Compoſed of Solids and Fluids; for that the Production and Nutrition of theſe Animals muſt be made by Fluids; and thence alſo that the Parts of them for Motion muſt be ſomewhat like thoſe of Terreſtrial Animals; whether Beaſts, Fiſhes, Birds, or Inſects; that is, they muſt have Legs, Finns, Wings, *&c.* Though not exactly the ſame with ours, ſince the Fluids may be more various, as to their Number, and as to their Denſity, and as to their Rarifaction and Conglaciation, ſome of theſe Globes being much further off, and ſomewhat nearer to the Sun, and its powerful Rays. And ſo the Fluids of ♄ and ♃ may not be ſo apt to be Frozen, nor thoſe of ♀ and ☿ to be Rarified into Vapours, neither of which would deſtroy the Form and Uſe of Water for the Vegetation of Plants.

And becauſe though we ſhould allow theſe Globes theſe Ornaments and Furniture, yet though we ſuppoſe them deprived of the principal Production and Maſter-piece of all, and for whoſe Uſe and Benefit all the reſt ſeem to be made, we ſhould too much Exalt and Over-value this Globe of the Earth, and too much Depreciate all the other. Therefore he thinks we muſt ſuppoſe them to have Rational Animals alſo, and that thoſe have all thoſe Senſes, and other neceſſary Organs for Reaſoning that Men have here, and that they do uſe them, and have procur'd thereby the ſame Advantages, and Improvement of that Faculty, that in the like Caſes Men have done here upon the Earth. And ſince we find that Fire in many Caſes is of great Uſe, he thinks that we muſt ſuppoſe it common to all the other Globes alſo. But to judge of the Magnitude, or exact Shape of thoſe Animated Bodies in the other Planets, by the Magnitude of thoſe Globes, he thinks we have no Medium to direct us, ſince we find that Nature does not reſtrain it ſelf to ſuch Rules of Meaſure as might ſeem the beſt to us. But ſince the Principal Uſe of Reaſon, which he ſuppoſes to be the ſame as here ſeems to be for the Contemplation of the Works of the Creatour, and the Improvement of Arts and Sciences, he conceives that thoſe Inhabitants do not only Contemplate and obſerve the Stars, but that they have alſo made an Aſtronomy, and Cultivated ſuch Arts as conduce thereunto; as thoſe of Geometry, Arithmetick, Opticks, *&c.* and that of Writing, by which they may Regiſter their Obſervations to their Poſterity. And thence he concludes they muſt have Hands and Legs, or ſuch like Limbs, and an erect Face by which they may be enabled to perform ſuch Actions as are neceſſary for thoſe Purpoſes, and in general he thinks it probable that they may have many Arts and Sciences, the ſame with ours, though poſſibly not all, but yet others inſtead thereof, not leſs Valuable. Nor would they ſeem leſs Wonderful and Pleaſant to us, could we be Tranſported thither by ſome powerful Genius, which ſince he deſpairs of, he endeavours in his ſecond Book to give us his Judgment concerning the Phœnomena of the Heavens, what they might appear to one of us ſuppoſed to be there in one of them, which he Founds on the Knowledge we now have of them, as to Magnitude, Diſtance, *&c.* And here, after he has Cenſured Father *Kircher*'s Iter Extaticum (a Book Publiſh'd on the like Subject) he begins to tell what muſt be the Phænomena of the Sun, and Planets, ſeen in ☿, and next what the ſame muſt be ſeen in *Venus*, which ſince with a ſixty Foot Teleſcope, and all his Diligence, he could never diſcover to have Spots, or differently illuminated Parts, as are viſible in *Mars*, *Jupiter*, and *Saturn*: He Conjectures that the Reflection of Light from it is made by the Atmoſphere about it, and not by the Body it ſelf. *Thirdly*, What they are in *Mars*, which he makes much

leſs

then *Venus*, or the Earth, tho' without a Moon, and further diſtant from the Sun. And *Fourthly*, What in *Jupiter* and *Saturn*, which ſo vaſtly exceed all the other three, both for their Magnitude, and for their Concomitants, *Jupiter* having 4, and *Saturn* 5, together with a Ring, whereas the Earth has but one, and the other 3 none at all. Upon Explaining the Phenomena of theſe, he more largely inſiſts, and has therein Summ'd up all the lateſt and beſt Phenomena that have been obſerved concerning them, as to the 5 Moon's about ♄, tho' he confeſſeth that he had not ſeen the 2 innermoſt of them, yet he Confides in the Obſervations of Monſieur *Caſſini*, and ſuſpects alſo that there may be more yet diſcovered, when the Glaſſes of 170, and 210 Foot made the moſt Accurate by his Brother, ſhall come to be uſed for that Purpoſe. But what to determin concerning the Furniture, or Nature of all theſe *Moon's*, though he thinks them to be much the ſame with that of our *Moon*, Yet as he conceives, being not ſufficiently inform'd by Obſervation, that the *Moon* has the like Furniture as the Earth has, he is at a ſtand, and knows not well what to determin concerning them. He grants we can plainly diſcover that the *Moon* has *Mountains* and Valleys, and other Aſperities as the Earth has; but as he conceives there are no Seas nor Rivers, for that he thinks it more probable that thoſe Spots which others have ſuppoſed Seas, are only great Plains of a darker Colour, his Reaſon is, for that there are divers inequalities to be diſcovered in them the ſame as in other Parts of its Surface, and from thence he imagines there can be no Rivers, and conſequently no Water, nor any Atmoſphere, or Air. Theſe are the Difficulties which perplex him, which if he could have removed, and that he could have been aſſured there had been Water, he could have allow'd it all the other Priviledges, and with *Xenophanes* have furniſh'd it with Inhabitants, Cities, *&c.* But as he conceives of t, he can neither allow it to have Animals, no, nor Plants. And yet at laſt he ſays, 'tis not improbable but that it may have Plants and Animals too, but they muſt have another ſort of Nouriſhment. Now by this Cenſure of the Moon he has paſs'd the ſame upon all the other Moons, to wit the Concomitants of ♃ and ♄, which he judges to be of the ſame Nature, and to expoſe the ſame part always towards their primary Planet, as the Moon does to the Earth, by a Phenomenon of one of the Moons of ♄, the Conſideration of which Suggeſted to him that the Phenomena of the Heavens muſt be to their Inhabitants, if they could have any, and for all the reſt gives an Inſtance of thoſe of the Moon. Then he proceeds to conſider the Sun and the fix'd Stars, promiſing the Magnificence of the Solar Syſteme; this he does by Words, becauſe Schemes he could not render 'em large enough to repreſent the proportionate Magnitudes of the Orbs to the Minuteneſs of the Plenary Bodies; for the Orb of *Saturn* would require an *Area* of 360 Foot in Diameter, and that of the Earth, one of 36 Foot to draw them proportionate to the Globes, for the Orb of the Earth is 12000 times the Diameter of the Earth's Ball. And conſequently the diſtance of the Earth from the Sun will be above 17 Thouſand, or 17 Millions of *German* Miles. To make the vaſtneſs of theſe Diſtances the more conceivable, he Computes them by the Times that a Cannon-bullet (ſuppos'd to paſs a hundred Fathom in a ſecond of Time) would ſpend in paſſing thoſe Spaces, whence he concludes it would be 25 Years paſſing to the Sun from the Earth, 125 from ♃, and 250 from ♄. Then he proceeds to conſider the Body of the Sun, where he is *nonplus'd*, as about the Moon; for he is not ſatisfi'd whether it be a ſolid, or fluid Body, but he inclines to think it a Fluid. Next, he knows not what to think of Animals, or Vegetables in it, ſince there can be nothing like any thing we know, by reaſon of the continual Fire and Heat which would conſume all ſuch as we have here. He thinks therefore it might be made for the Illuminating and Enlivening of the Parts of the other Planets. *A*nd as for the fix'd Stars he conceives them to be ſo many Suns, and to be diſpers'd in the vaſt Expanſum of Heaven at various Diſtances, and each of them to have a proper Syſtem, and Planets moved about them. *A*nd tho' it be impoſſible for us ever to ſee thoſe Planets, by reaſon of their vaſt Diſtance, yet from the Analogy that is between the Sun and Stars, we may judge of the planetary Syſtems about them, and of the Planets themſelves too, which probably are like the planetary Bodies about the Sun, (that is) that they have Planets and Animals, nay, and Rational ones too, as great Admirers and Obſervers of the Heavens as any on the Earth. This Repreſents to us a wonderful Scheme of the prodigious vaſtneſs of the Heavens; ſo that the diſtance between the Earth and the Sun, though of 17 *M*illions of *German M*iles, is almoſt nothing to the diſtance of a fix'd Star. And becauſe of the Difficulty in making Obſervations for this Purpoſe, in the common Ways, he therefore propoſes a new *M*ethod of his own for this Purpoſe, which he alſo explains, and by that one may the better conceive the vaſtneſs of the diſtance of one of the neareſt, as for Inſtance from the Sun; which by this way he proves to be 27664 times the Diſtance of the Sun from the Earth; and to make this Diſtance yet more comprehenſible, he makes uſe of the former Explication, by the time that a Cannon-bullet moved as ſwift, as hath been juſt now Explained. Wherefore multiplying 27664 by 25, he finds that a Cannon-bullet moving a hundred Fathom in a Second would be 700000 Years in its Journey betwixt us and the fix'd Stars; here by the way he makes ſome Reflections on *Des Carteſa*'s *Vortices*, and explains his own Sentiments concerning the Preſent State of the Univerſe, nor will he trouble his *M*ind about their bigining, or how made, as knowing it to be out of the reach of human Knowledge or Conjecture.

Upon the whole *M*atter you will here find the Ingenious Author's Opinion concerning the Univerſe with all the Arguments for it drawn from the moſt accurate Obſervations that have been hitherto made that are Pertinent thereunto. The only Failure, ſeems to ſome to be in his Opinion concerning the *M*oon and Secundary Planets. Upon which Subject, there may perhaps be ſhortly Publiſhed a Brief Diſcourſe of one who is of a ſomewhat differing Sentiment.

III. Orang-Outang, ſive Homo Sylveſtris: *Or the* Anatomy *of a* Pygmie, *compared with that of a* Monkey, *an* Ape, *and a* Man. *To which is added a* Philological Eſſay *concerning the* Pygmies, *the* Cynocephali, *the* Satyrs *and* Sphinges *of the Ancients*, &c. *By* Edward Tyſon, *M. D. Fellow of the Colledge of Phyſicians, and of the Royal Society*, &c. *London, in* 4to. *1699.*

THE Ingenious Author of this Treatiſe, having often obliged the World with his Anatomical Diſcoveries and Obſervations on ſeveral curious Subjects, of which there is a Catalogue at the end of this Tract, has here given us a very Ample, as well as Accurate Account of this ſtrange, and indeed ſurprizing Animal, a Creature rarely, if ever ſeen by our World, at leaſt in this Age, of which I ſhall give a ſhort, and but imperfect Abſtract; for to take notice of all that is Remarkable, were to Tranſcribe the whole, and refer the more Curious to the Peruſal of the Diſcourſe it ſelf, well *M*eriting the Time of the moſt Knowing and Learned Reder, who will find ample Satisfaction therein.

And firſt in the Preface our Author gives an Account of his Undertaking, *viz.* To give a Comparative Survey of this Animal, with a *Monkey*, an *Ape*, and a *Man*, ſhewing wherein they agree, and in what Particulars they differ from each other, and in the Philological Eſſay, he proves there were ſuch Creatures as the Ancients called *Pygmies*, *Cynocephali*, &c. And that theſe were all either Apes or Monkies, and not Men. As to this *Orang-Outang* which was brought from *Angola* in *Africa*, but taken up higher in the Country, he begins with the ſeveral Names by which it has been called by ſeveral Writers, and obſerving the great Confuſion in Authors Treating of the Ape, or Monkey-kind, he obliges himſelf to give a more particular Deſcription of this, and tho' he obſerves it in many things more agreeable to a Man, than any of the Ape kind, yet he by no means allows it to be Humane, but a Brute-animal, *ſui generis*. And before he comes to the particular Deſcription of it, he preſents us with a Text in *Ariſtotle*, deſcribing the Ape-kind, which he *Engliſhes*, and gives a Comment thereon, ſhewing wherein the preſent Subject agrees, or differs from it, and then proceeds to give an exact Account of the outward Shape and Size of the Creature diſſected, which was 26 Inches high, and in this he is very particular in the Proportions of every part, and takes notice of the Figures and Deſcriptions given by *Tulpius*, *Bontius*, *Geſner*, &c. Wherein they agree, or differ from this, all which Figures he gives us a Copy of, and quotes at large ſeveral Authors, Ancient and Modern that have mentioned, or treated of it, and ſo comes to the Anatomy of its ſeveral Parts. I ſhall remark ſome few, of them I thought more obſervable, as that its Skin was whitiſh, and adhered pretty firmly, and had the *Membrana Adipoſa* next to the Skin, as in Man, and under that the

Carnoſa. The Seminal Veſſels paſſed between the two Coats of the *Peritonæum* to the *Scrotum*, as in Man, whence our Author Argues, Nature deſigned this Creature to go erect, ſince 'tis otherwiſe in all *Quadrupedes*. The *Omentum* was faſtened as in Man, different from what the *Pariſians* found in the Monkey. Treating of the *Ductus alimentalis*, which he makes the *Proprium quarto modo* of an Animal; he takes occaſion to recommend the more Nice Examination of the intermediate Species of Beings between Plants and Animals, as the *Zoophite*, of which he once met with one that had a ſenſible Contraction, or Motion of ſome Parts, but nothing like the Structure of any Parts or Organs like an Animal. The Stomach was like a Man's, there was no *Bezoar* Stones in it, which *Bontius* ſays are ſometimes found in the Stomach's of Apes. The Word *Bezoar* he obſerves comes from the *Perſian Pa-zahar*, *contra venenum*, and recommends it as an excellent Medicine, and quotes the ſame *Bontius* for the Stone bred in the Bladder of Men, as an extraordinary Diuretic, and Sudorific. Treating of the Inteſtines he finds the *Apendicula Vermiformis*, as 'tis in Men, tho' tis wanting in Apes and Monkies. The *Liver* likewiſe the ſame as in Man, and different from the *Monkeys*, as was alſo the *Ductus Hepaticus*, the *Spleen*, *Pancreas*, *Glandulæ Renales*. And ſpeaking of the *Kidneys*, he hints at the Reaſon why Bleeding has been Succeſsful in a Suppreſſion of the Urine, the *Tubuli Urinarii* being overpreſſed by the Fulneſs of the Blood-veſſels that run between them. The *Aorta*, and *Cava* were as in *Man*. The *Teſtes* were not in a *Scrotum*, but more Contracted by the outward Skin nearer to the *Os Pubis*, by the ſides of the *Penis*, whence he queries whether the having them ſo placed, may contribute to the Salaciouſneſs of the Ape-kind, of which he gives a remarkable Relation or two, and proceeds to the ſeveral Parts and Veſſels of the *Teſtes*, which were conformable to thoſe in *Man*. The *Penis* differed, had no *Frænum*, nor is he certain whether it had any *Glans*.

As to the middle *Venter*, the *Lungs* had five Lobes in Colour, Subſtance, Situation, and all Circumſtances like a *M*an's; as was the *Trachæa*; and the *Pericardium* was faſtened to the *Diaphragm*, juſt as 'tis in *M*an, which is uſual in Brutes. Whence he raiſes another *A*rgument that Nature deſigned it a *Biped*, and gives the Reaſon why 'tis ſo faſtened to aſſiſt the *Diaſtole* of the *Diaphragm* in Expiration, which otherwiſe the Liver and Stomach would draw down too much into the *Abdomen*. The *Heart*, &c. much the ſame as in *M*an. The *Larinx*, *Cartilages*, *M*uſcles, *Os Hyoides*, and all the Organs of Speech the ſame exactly, as 'tis in *M*an, excepting the Tongue, and the Rough of the *M*outh.

Coming to the Head, he obſerves the *Brain* in all Reſpects, exactly reſembling a Man's. From the Agreement of which Parts he argues that the nobler Faculties in the Mind of Man muſt have a higher Principle, and that *M*atter Organized could never produce them.

In the next place our Author examines the *Bones*, and by the way touches at the Diſpute between *Veſalius*, and others in Relation to *Galen*, whether he ever diſſected human Bodies, or only Apes. Then he Inſerts *Riolanus*'s Treatiſe, Intituled, *Simiæ Oſteologia*, &c. Upon each Chapter, whereof he makes his particular Remarks, ſhewing wherein the *Orang-Outang* agreed more with a *M*an than a *M*onkey, in more than 20 Particulars, and ends this Diſcourſe with an account of the *M*uſcles, for which he owns himſelf obliged to *M*r. *Cowper*, as likewiſe for the deſigning all the Figures which are done with the greateſt Accuracy, and curiouſly Engraved on eight large Plates, Repreſenting the Creature both before and behind, then 2 Fig. likewiſe with the Skin off, ſhewing all the *Muſcles*; then the *Skeleton*, and laſtly the ſeveral *Viſcera*.

He concludes this Diſcourſe with a Recapitulation of 48 Particulars, wherein the *Orang-Outang* more reſembled a *Man* than Apes and *Monkies* do, and 34 wherein it differed from a *Man*, and more Reſembled the Ape and *Monkey*-kind.

We come now to the *Philological Eſſay* concerning the *Pygmies* of the Ancients, wherein our Author ſhews that in all Probability this Creature gave the firſt Occaſion of this Story, which he traces up to the Original, and finds *Homer* to be the firſt that mentions it, and their fighting with the Cranes, of which *Geranomachia* he gives the Reaſon. He Cites the ſeveral *Authors*, *Ancient* and *Modern*, that have any where mentioned them; and upon the whole concludes that the *Pygmies* were not a diminutive Race of *Mankind*, as has been generally thought but this Creature, which he proves at large, Inſtancing and Explaining the ſeveral *Accounts* of them in *Homer*, *Athenæus*, *Ælian*, *Pomponius Mela*, *Pliny*, *Oneſicritus*, *Cteſias*, *Herodotus*, *Hellanicus*, *Ariſtotle*, *Strabo*, *Nonnoſus*, *Albertus Magnus*, *Iſaac Caſaubon*, *Geſner*, *Jo. Talentonius*, *Olaus Magnus*, *Bartholine*, &c. Commenting upon the particular Treatiſe of the laſt upon this Subject. In the next place, coming to Treat of the *Cynocephali* of the *Ancients*, he ſhews theſe likewiſe to have been *Apes* only, and not *Men*, and in this, as well as the *Pygmies*, and other Particulars ſhews *Cteſias* to be a very fabulous Writer, giving the Hiſtory of this *Animal* from the *Ancients*, with his own Remarks thereon, and ſo proceeds to Treat of the *Satyrs*, *Pan*, *Ægypan*, *Sylvanus*, *Silenus*, and the *Nymphæ*, all which he ſhews were ſeveral *Species* of *Apes*, or *Monkeys*. In the laſt place he ſpeaks of the *Sphinges*, which he ſays are a ſort of *Ape*, or *Monkey* bred in *Æthiopia*; theſe he deſcribes out of *Pliny*, *Agatharchides*, *Diodorus Siculus*, *Philoſtorgius*, and *Phil. Camerarius*, who ſaw one of them at *Verona*, and ſo Concludes this Learned and Ingenious Treatiſe.

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